"May 14, at 8 p. m., in latitude 33.18 N., longitude 146.44 W., temperature 62, barometer 30.38. On this particular evening I observed numerous bright streaks which resembled the aurora borealis, in a north and south direction covering about two-thirds of the heavens and giving the northern portion of the sky a peculiar reddish tint.

"During this time the sky was very clear excepting the northern part close to the horizon. At 9:15 p. m. the streaks disappeared, leaving the north and eastern part of the sky very red for about 15 minutes, then gradually getting fainter until at 10:45 p. m., when it completely disappeared."

Capt. Petterson says the display was a magnificent one and that the rays resembled a great battery of searchlights, lighting up the clouds with a pure white color. The rays were white, but the sky was red. He says he has never seen anything like it in all the years he has been on the Puget Sound-Honolulu run.—*Honolulu Star-Bulletin*, May 19, 1921.

Apia, Samoa.—In the evening, between 6 and 7 p. m., a display of the aurora australis, a usual accompaniment of these magnetic disturbances, was observed. It was an extremely bright display, as otherwise it could not have been seen at all in the moonlight, and it is also a very rare event to see this phenomenon in latitudes near the equator. It is to be expected that news from the outside world will mention interference with the work of submarine cables and telegraphic work generally.—*Samoa Times*, May 28, 1921.

The following is a portion of a communication by Dr. A. L. Cortie in *Nature*, London, June 2, 1921, pp. 426–427.

On May 8 there appeared on the sun's eastern limb an equatorial sun spot in a region which has been without disturbance for some considerable time. It was an active spot which had separated by May 12 into two large spots. The maximum area of the group was 16.5, in units 1/5000 of the sun's disk, and this was attained on May 14. * * *.

The mean heliographic latitude of the earth during the passage of the group across the sun was −2.8°. Therefore, not only was there a large active sun spot on the sun, and with the penumbral character which frequently marks spots associated with magnetic disturbance, but also the earth was very favorably situated with regard to it. Under such conditions a great magnetic storm is inevitable.

WATERSPOUTS ON LAKE ONTARIO.[1]

551.59 (285: 7/:73) By ELLIS GAY.

[Pultneyville, N. Y., Aug. 5, 1921.]

I observed this phenomenon from Gates Grove, on lake shore about half way between Nine Mile Point and Pultneyville, Aug. 2nd. The weather conditions seemed peculiar—heavy cumulus clouds over the horizon, practically no wind; but about 9 a. m. a heavy swell from the northeast commenced, which I thought indicated a disturbance in that direction, although we could see no line of wind, as is often the case. About 11:30 a. m., I noticed on the eastern horizon what I thought to be the smoke of a steamer, "hull down," but could make nothing of it with the glass. As our eastern view is partially hidden by a point, I should guess that it was about off Pultneyville (5 miles). I paid no further attention to it for a few minutes (less than 10), when I again looked, it was directly in front of the cottage, almost due north. There was a smokelike disturbance on the surface of the lake of considerable size, and rising from it was a thin ribbonlike streamer which widened gradually until it was lost in the clouds. This streamer was visible *against* the low-hanging cumulus clouds which lay beyond it, as well as in the small portion of the horizon which was clear. As I could not tell how far away it was, there was no way of estimating the height of the cone, although I should guess it was 3 to 5 miles out and at least 1,000 feet high. (Other observers guessed a mile high.) Through glasses a rotation could be plainly discerned, and though there was a diversity of opinion, I am convinced that it was counterclockwise. The spout traveled from east to west at a good rate of speed, probably 40 to 60 miles per hour. While we were watching, another spout was formed approximately a mile from the first. I saw the column reaching down from the clouds finally touch the surface and make a disturbance similar to the original one. Later we saw a third column reach down; but it did not come to the surface. Two complete and one partial spout were visible at one time. They seemed to melt away when they were a few miles west of us. The duration of our observation was about five minutes. The sky in the west below the clouds showed a decided copper tint, and it looked as though there might be a thunderstorm somewhere north of Charlotte. The phenomenon had entirely disappeared at 12 m.

From all the data I have been able to find on the subject I am satisfied that we saw waterspouts.

[1] Waterspouts are rarely observed on the Great Lakes. The only previous spout on Lake Ontario of which there is a record occurred on Sept. 19, 1889. Spouts were reported on Lake Erie, off Buffalo Breakwater, Aug. 19, 1919.—Ed.

ANOTHER OBSERVATION OF WATERSPOUTS.

By HOMER B. BENEDICT.

[Brockport, N. Y., Aug. 23, 1921.]

In the *Rochester Democrat & Chronical* for Aug. 5th, I saw an account of a waterspout seen on Lake Ontario east of Rochester on Tuesday, Aug. 2nd.

To corroborate the fact that such a phenomenon was seen, I wish to state that my family and myself saw such a waterspout or cyclone on this same date, over the lake about the middle of the forenoon, at my farm in the town of Hamlin, about twenty miles west of Charlotte.

My attention was first called to it by my son and others, calling to come out and see a strange cloud. When I reached the lawn I found all the members of the family collected, watching this mysterious cloud. It did not last long.

This cyclone cloud or waterspout, so-called, reached from the horizon line more than half way to the zenith. My first thought was a cyclone, for it was a very awe-inspiring sight and it seemed as if it might come towards where we were standing. Instead it moved westerly along the lake. At the point where it touched the water it looked as if smoke were arising from the water, which we decided was the water sucked up by the wind.

I do not believe that the cloud itself was composed of water, as it disappeared suddenly, without any mass of water falling into the lake, so far as we could see, but at the point where it touched the water there was evidently a great disturbance. One could imagine a great elephant's trunk, reaching from the sky to the water's surface. At the upper end it was funnel shaped or cone shaped, and then ran in a narrowing form to the water line. It was a swirling streak of cloud, and as we stood watching it, wondering what was to happen, it parted in the middle, part drawing into the clouds and the other gradually disappearing toward the lake; and then as if by magic it came together again in a narrower form, but still reaching from the water to a great height in the clouds. But all the while one could see what looked like smoke arising where the end of the cloud touched the water, and even when the cloudy pillar had disappeared the smoky spot could be seen traveling up the lake.

The day was rather sultry and the clouds looked like thunder caps.

Shortly after the cloud disappeared waves rolled in on the beach, showing that they had been tossed up by the wind, but on shore we had felt no unusual amount of wind.

I also read an account in some paper, I can not tell where, that Howard Palmer of Union Hill saw a similar cloud on this same day, which lasted fifteen or twenty minutes. As I said before, the one in front of our cottage lasted but a few minutes. I am told that there were others at Straight Lake who saw the cloud.